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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,296	12/19/2001	Willem Van Schaik	P 290555 P-0220.010-US	9334
909	7590	04/22/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			EL SHAMMAA, MARY A	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	

2881

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/021,296

Applicant(s)

VAN SCHAİK, WILLEM

Examiner

Mary A. El-Shammaa

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 11-12, 16, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Engelsberg et al. (5,958,268).

Regarding claims 1, 11-12, 16, and 23, Engelsberg et al. discloses in the figures (particularly Fig. 1) a device, a manufacturing method, and an apparatus comprising a radiation system to provide a projection beam of radiation; a support structure constructed and arranged to support patterning structure, the patterning structure which can be used to pattern the projection beam according to a desired pattern; a substrate table to hold a substrate; and a radiation source independent of the radiation system constructed and arranged to supply radiation capable of removing contaminant particles adhered to an optical component without substantially heating said optical component (col. 4, lines 40-65; col. 5, lines 28-35; col. 6, lines 19-26).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2881

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-10, 13-15, and 17-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engelsberg et al. in view of Norton et al. (5,486,701).

Regarding claims 2 and 13-14, Engelsberg et al. does not disclose the radiation being selected from microwave and infrared radiation. Norton et al. discloses microwave or infrared radiation being used (col. 11, lines 24-25; col. 12, lines 55-57). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the microwave or infrared radiation taught by Norton et al. because this would allow for versatility in the frequencies of the radiation being used to remove contaminant particles.

Regarding claim 17, Engelsberg et al. does not disclose the radiation source being adjustable which can be tuned to different wavelengths. Norton et al. teaches of an adjustable radiation source that can be tuned to different wavelengths (col. 8, lines 13-20; col. 10, lines 44-58). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the adjustable radiation source taught by Norton et al. because Norton et al. teaches that by using different wavelengths, a ratio between UV reflectance and visible reflectance can be determined.

Regarding claim 18, Engelsberg et al. does not disclose wavelength of the radiation being detected by a filter. Norton et al. teaches the wavelength being selected by a filter (col. 2, lines 23-27; col. 10, lines 57-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the filter taught by Norton et al. because the inclusion of such a filter allows for selection of a particular range of wavelengths to be transmitted.

Regarding claim 19, Engelsberg et al. does not disclose a broadband radiation source. Norton et al. teaches the use of a broadband radiation source (see Abstract; col. 5, lines 14-28; col. 7, lines 45-47; col. 8, lines 14-18; col. 9, line 63 through col. 10, line 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the broadband radiation taught by Norton et al. because using a broadband radiation source allows for a wider range of frequencies.

Regarding claims 15 and 20-21, Engelsberg et al. does not disclose a sensor constructed and arranged to monitor a level of contamination of the optical component and analyze the absorption of radiation. Norton et al. teaches of a sensor constructed and arranged to monitor a level of contamination of the optical component (see Abstract; col. 14, lines 26-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to monitor the level of contamination to prevent over or under irradiation.

Regarding claim 22, Engelsberg et al. does not disclose the sensor being a mass spectrometer. Norton et al. teaches of the sensor being a mass spectrometer (col. 11, lines 26-42). It would have been obvious to one having ordinary skill in the art at the time the invention was made to monitor the level of contamination to prevent over or under irradiation.

Regarding claims 3-4, 6-7, and 9-10, Engelsberg et al. in view of Norton et al. discloses the claimed invention except for the specific frequencies falling within the specified ranges of the claims. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include infrared radiation in a range of frequencies from 1 to 100 cm^{-1} or 1000 cm^{-1} to 4600 cm^{-1} , since it has been held that where the general conditions of a claim are

Art Unit: 2881

disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Regarding claims 5 and 8, Engelsberg et al. in view of Norton et al. discloses the claimed invention except for optical component comprising CaF_2 , BaF_2 , MgF_2 , or quartz. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include an optical component comprising CaF_2 , BaF_2 , MgF_2 , or quartz, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Response to Arguments

Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period

Art Unit: 2881

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mary A. El-Shammaa whose telephone number is 571.272.2469. The examiner can normally be reached on M-F (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on 571.272.2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAE

April 15, 2004


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
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